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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

ROBERTSON, JEFFREY

ART UNIT	PAPER NUMBER
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1712

DATE MAILED: 03/29/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/713,796

Applicant(s)

VAN BATENBURG ET AL.

Examiner

Jeffrey B. Robertson

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 February 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4,6-12,14,15 and 17-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4,6-12,14,15 and 17-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____.

DETAILED ACTION

1. The present application has been transferred to the current Examiner as Examiner Richard is no longer with the USPTO.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 11, 12, 14, and 20 are rejected under 35 U.S.C. 102(b) as being anticipated by Burdick et al. (US Patent 5,228,909).

Burdick teaches sodium formate fluidized polymer suspensions. Burdick discloses results for aqueous sodium formate solutions 15% hydroxyethyl cellulose in 20, 25 and 30% (see column 1, line 60 to column 2, line 40, especially the tables). The 20 and 25% formate solutions gel and the 30% formate solution produces a fluid suspension (see second table in column 2), this suspension in 30% formate is a liquid gel concentrate. Note that from this data, one may easily infer that such a 30% formate

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based suspension may be diluted with water to provide a hydroxyethyl cellulose gel and also that the formate is a hydration inhibitor.

The third table in column 2 shows that the suspensions may contain (at least) up to 35% sodium formate and 25% polymer, along with xanthan gum. The xanthan is used as a suspending agent (see column 2, lines 53-56).

Regarding the amount of polymer in the solution, taking the ideal values given in the Table in column 2, lines 45-51, the amount of water is 49.85 grams or 49.85 mL (density of water 1 g/mL) which converts to 0.013 gallons. The amount of polymer is 20 grams, which converts to 0.054 lbs. This equates to 4.15 lbs of polymer per gallon of water. When there are 1000 gallons present, the amount of polymer is 4150 lbs.

4. Claims 11, 12, 14, 17, and 18 are rejected under 35 U.S.C. 102(b) as being anticipated by Korzilius et al. (US Patent 6,239,081).

Korzilius teaches water based drilling fluids that may comprise sodium, potassium compound and cesium formates (especially potassium formate) and boron compound (such as boric acid or a borate among others) (see column 1, lines 45-67). Preferably the formate will be at 30 to 100% saturation (see column 2, lines 20-23). Various cellulose derivative may be included (see column 2, lines 35-60). Solutions of cellulose derivatives, synthetic polymers or starch in 30, 50 or 70% potassium formate solutions are shown in tables in the Examples. Potassium carbonate is a base and a PH adjuster.

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In col. 3, lines 8-11, Korzilius teaches that concentrations of polymer in amounts that preferably are up to 30 g/l. This amount converts to 0.25 lbs/gal. This means that per 1000 gals, there is 250 lbs of polymer, which is within applicant's range.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-4, 6-8, 11, 12, 14, 15, and 17-19 are rejected under 35 U.S.C. 103(a) as being obvious over Briscoe (US Patent 4,336,145) in view of Clarke-Sturman et al. (US Patent 6,933,262).

Briscoe teaches a liquid gel concentrate comprising water, a hydratable polymer which yields viscosity upon hydration, and a reversible hydration inhibitor, the concentrate may be diluted with additional water to form a high viscosity treating fluid (see Abstract). Useful polymers include polysaccharides such as guar and derivatives of guar (see column 2, lines 12-26). Inhibitors include sodium tetraborate and sodium hydroxide (see column 3, line 60 to column 4, line 8). The tetraborate is taught specifically in combination with hydroxypropyl guar (see column 5, lines 1-5). In col. 3, lines 43-60, Briscoe teaches a range of polymer that falls within applicant's claimed

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range. Briscoe teaches all of the limitations of the rejected claims, except for the use of formates solutions.

Clarke-Sturman teaches the use of formate brines in a context very similar to that of Briscoe. In col. 1, lines 65-68, Clarke-Sturman discloses that the addition of formate salts increases the stability of aqueous polysaccharide solutions.

It would have been obvious to one of ordinary skill in the art at the time of the invention to use formate salts in the compositions of Briscoe. The motivation would have been that Clarke-Sturman teaches that the stability of the compositions are improved.

7. Claims 9, 10, 20, and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Briscoe (US Patent 4,336,145) in view of Clarke-Sturman et al. (US Patent 6,933,262) as applied to claims 1 and 11 above, and further in view of Burdick et al. (U.S. Patent No. 5,228,909), Allen et al. (4,963,668), and Kang et al. (U.S. Patent No. 4,342,866).

The limitations of claims 1 and 11 are discussed above. Briscoe and Clarke-Sturman fail to teach the addition of a suspending agent. Burdick is discussed above. Burdick teaches the addition of suspending agents in the form of gums in col. 2, lines 53-55. As evidenced by Allen, col. 3, lines 4-6, the gum disclosed in Kang is welan gum and is an excellent suspending agent in aqueous brines. In col. 6, lines 5-27, Kang teaches that the suspension properties of welan gum are advantageous over other gums. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to add a gum to suspend the polymer in the formate solutions as

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set forth in Burdick to prevent having to restir the solutions. It would also have been obvious to use welan gum as the suspending agent as set forth in Kang because of the superior properties of this gum as a suspending agent.

Response to Arguments

8. It is noted that applicant's comments regarding the Examiner Richard's claim interpretations have been accepted. The Examiner has accorded the claims their broadest reasonable interpretation as provided for in MPEP §904.01.

9. Applicant's arguments filed 2/6/06 have been fully considered but they are not persuasive.

Regarding the Burdick patent, applicant argues that the claimed composition is not taught or suggested. Applicant argues that Burdick fails to disclose that the polymers are in an unhydrated state and yield viscosity upon hydration or that the polymers are present in the composition in the amounts claimed by applicant. Applicant also argues that there is no basis to infer that the formate is a hydration inhibitor. The Examiner disagrees. Regarding the amount of polymer in the solution, the amounts set forth in Burdick are within the range claimed as set forth above. Regarding the state of the polymer and the inhibiting effect of the formate solutions, the data set forth in col. 2, lines 34-40, shows that the claim limitations are met. Specifically, it is noted that at lower levels of formate (20 and 25 grams) a thick gel is formed. This indicates that the polymer is hydratable, because it is capable of yielding viscosity. In the last entry of the table, the data shows that at a higher level of formate, no gel is formed, indicating that

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the formate has an inhibiting effect. Therefore, applicant's arguments are not persuasive.

Regarding the Korzilius reference, Applicant argues that Korzilius fails to disclose that the polymers are in an unhydrated state and yield viscosity upon hydration or that the polymers are present in the composition in the amounts claimed by applicant. The Examiner disagrees. As described above, the amounts of the polymers disclosed by Korzilius fall within the range claimed by applicant. In addition, the Examiner has withdrawn the statement objected to by Applicant in the response. However, because of the presence of borate compounds and the nature of the polymers employed, the examiner's position is that the hydratable nature of the polymer is inherent as is the ability of the boron compounds to act as a hydration inhibitor. Therefore, Applicant's arguments are not persuasive.


Regarding Applicant's arguments with respect to the rejections made under 35 USC § 103, these arguments are largely moot due to new grounds of rejection. However, the following comments are warranted regarding applicant's arguments as they may apply to the new rejection made above. Applicant argues that the modification of the compositions or methods of Briscoe or Clarke-Sturman could destroy their ability to perform their intended function. The examiner disagrees. There is no indication in the references that would lead one of ordinary skill in the art to believe that any modification thereof would destroy their ability to perform their functions. Therefore, Applicant's argument is not persuasive.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeffrey B. Robertson whose telephone number is (571) 272-1092. The examiner can normally be reached on Mon-Fri 7:00-3:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy P. Gulakowski can be reached on (571) 272-1302. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Jeffrey B. Robertson
Primary Examiner
Art Unit 1712

JBR